

Monthly Activity Report

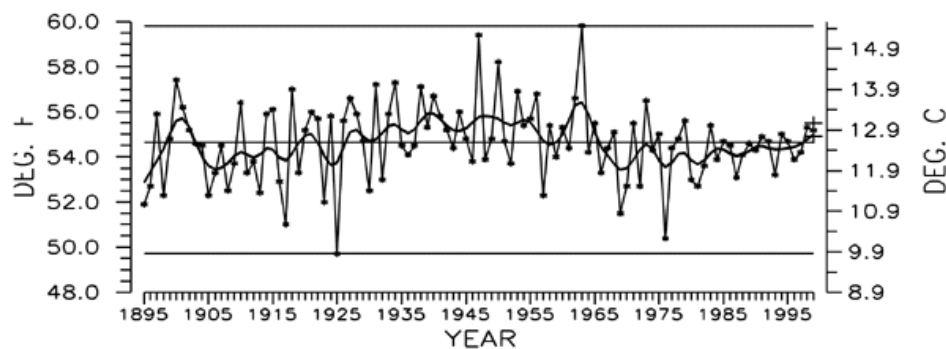
October 1999

National Climatic Data Center

A National Resource for Climate Information



U.S. NATIONAL TEMPERATURE
OCTOBER, 1895-1999



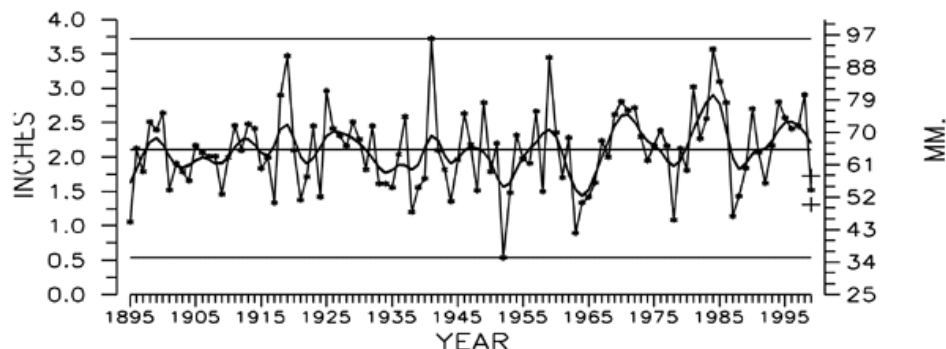
STRAIGHT HORIZONTAL LINES ARE:
MAXIMUM VALUE (TOP),
LONG-TERM AVERAGE (MIDDLE),
MINIMUM VALUE (BOTTOM)

THICK SMOOTH CURVE
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CONFIDENCE INTERVAL
FOR CURRENT YEAR IS
INDICATED BY '+'.
National Climatic Data Center, NOAA



U.S. NATIONAL PRECIPITATION
OCTOBER, 1895-1999



STRAIGHT HORIZONTAL LINES ARE:
MAXIMUM VALUE (TOP),
LONG-TERM AVERAGE (MIDDLE),
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National Climatic Data Center, NOAA

Preliminary data for October 1999 indicated that the monthly mean temperature averaged across the contiguous United States was near the long-term mean. About six percent of the country was much warmer than normal, while less than one percent of the country was much cooler than normal (top figure).

Based upon preliminary precipitation data, October 1999 ranked as the 18th driest such month since 1895. Nearly 20 percent of the country was much drier than normal, while about one percent of the country was much wetter than normal (bottom figure).

DIRECTOR'S HIGHLIGHTS

NCDC Assists NOAA Policy and Strategic Planning Office

Catherine Marzin, National Environmental Satellite, Data, and Information Service liaison to the National Oceanic and Atmospheric Administration (NOAA) Policy and Strategic Planning Office, was supplied information concerning the National Climatic Data Center's (NCDC) efforts to support Hurricane Floyd relief efforts to be used for a briefing to White House Cabinet Affairs. In addition, NCDC is preparing a web page which will focus on rainfall totals and damages caused by Hurricane Dennis and Hurricane Floyd. As the meteorological data arrive at NCDC, attorneys, insurance companies, individuals, and researchers will be able to obtain these data.

September Climate Report

The National Climatic Data Center's (NCDC) Climate Monitoring Report for September 1999 was placed on-line on October 15th. Globally, September continued the string of warmer-than-average months, although significantly below the warmth experienced in September of the past two years. Most of the cooling can be attributed to ocean temperatures, which averaged as the third coolest in the 1990s, since global land temperatures for September ranked at .65 degrees C above average, as the second warmest September since 1880. For the U.S. nationally, both temperature and precipitation ranked near average with significant areal variability. Warmth continued in New England with New Hampshire, Vermont and Maine all recording their second or third warmest September. The passage of Hurricanes Dennis and Floyd led to the wettest September on record in Maine, Maryland, Vermont, New Jersey, and Virginia, while the

Northwest region continued the dry spell that began in the spring with Oregon experiencing its driest September. The report contained a special drought section focusing on the diminishing drought in the eastern part of the U.S. Significant drought still occurred in parts of the Southeast and the Ohio Valley areas, however, the long-term (since August 1998) drought along the Eastern Seaboard essentially ended. September was the wettest such month in the Virginia/Delaware/Maryland area with September's precipitation excess matching the accumulated deficit since February of this year. September also ranked as the wettest such month in the Northeast Region. For the past 12-month period, the Northeast continued warm with New Hampshire experiencing its warmest such period and Maine, Vermont, and Rhode Island their second warmest. Long-term wetness continued in the North-Central Region with Minnesota, North and South Dakota all experiencing their wettest October-September period on record.

State Programs

The National Climatic Data Center (NCDC) has established the first two NCDC Recognized State Climate Offices (NRSCOs) under the new guidelines released during the summer of 1999. The states of North Carolina and Wyoming now have official NRSCOs with Drs. Sethu Raman and Larry Pocho, respectively, serving as the State Climatologists. New memoranda of agreement have been signed between NCDC and the state host institutions. The goal is to have an NRSCO in all 50 states and Puerto Rico by December 2000, when current recognition under the old guidelines expires.

CLIMATE DATA AND INFORMATION SERVICES

♦ Database Development

Global Precipitation Classification Project

The National Climatic Data Center submitted a proposal to the U.S. Army Topographic Engineering Center for developing global precipitation statistics and maps for the Global Precipitation Classification Project. This project began in May 1999, and a literature review was completed in September. The Army funds were budgeted and approved for Phase 2. They are now under a continuing resolution and the money will be sent when the new budget is passed.

ASOS Station Information

The National Climatic Data Center (NCDC) merged basic station information for all commissioned Automated Surface Observing System (ASOS) stations into the Station History Information Processing System (SHIPS) database. This included station name, three identifiers (WBAN, FAA, and ICAO) coordinates, elevation, state, county, National Weather Service region, time zone and period of record based on the commission date, and links all 745 ASOS stations with past site histories and data collections. Future plans for ASOS metadata management include a procedure to add newly commissioned and pre-commissioned ASOS sites, and acquisition of detailed site and equipment information. This includes system modifications, continued archival support for ASOS wind equipment exposure digital images, and acquisition of Department of Defense ASOS station information.

♦ Data and Information Distribution

Cooperative Program News

The National Weather Service (NWS) Cooperative (COOP) Program Manager asked the National Climatic Data Center (NCDC) for input on the requirement for unpublished COOP station data. NCDC has no firm requirement for these data, and supports closing those stations for which there is not a sound NWS climate requirement. NCDC will agree to either drop them from the program, or convert them to formal published station status, based upon material provided by NWS via form B-44, which is the case for all COOP stations. However, NCDC cannot accept a large amount of additional processing without appropriate NWS-NESDIS resource discussions. The quarterly National COOP Observer Newsletter published by NCDC for NWS will be posted to the NWS COOP web site, password protected. The goal is to eliminate printing and distributing paper copy.

Hurricane Data

The National Climatic Data Center (NCDC) activated high resolution data acquisition (commonly called 1-MINUTE DATA, TD-3285) for all commissioned Automated Surface Observing System (ASOS) sites for Florida, Georgia, South Carolina, North Carolina, and Virginia for three days during Hurricane Floyd. In addition to the 33 primary sites for which high resolution data are regularly collected in those states, NCDC added 54 additional sites for a total of 87 stations. A typical site produces about 250

kb/day excluding ceilometer data, which were not collected at the 54 additional sites. Therefore, the total data volume is about 65 mb. A similar data collection was accumulated for Hurricane Dennis. In the absence of a manual severe weather augmentation, NCDC normally collects ASOS high resolution data for about 300 of the nearly 1000 sites around the U.S.

1999 Hurricane Report Uses GLOBE Data

The National Climatic Data Center's updated Climate Watch Page for October includes extreme events that have occurred during the month, and features a section on the passage of Hurricane Irene up the east coast of the U.S., including satellite photographs and a contoured map of precipitation for the event. Cumulative precipitation for October 14-19 from the Global Learning and Observations to Benefit the Environment (GLOBE) Program locations in the state complemented data from official National Weather Service locations. The GLOBE program is a school-based science and education program to provide a unique source of observational data for the environment, while encouraging interest by educators and students in science and research.

NOAA National Data Centers (NNDC) On-line System Statistics

During the month of October, the On-line Store recorded 1,429 orders, including 297 orders through the NNDC Climate Data On-line (NNDC CDO) system. Almost all of these orders were for products dynamically generated from on-line databases as opposed to off-line products ordered on-line, such as publications and CD-ROMS.

Bjelasnica, Bosina and Herzegovina Data Arrive

The first inquiry concerning shipping data to World Data Center A, under the WMO Global Climate Observing System (GCOS) Station Network (GSN) project, came from Bjelasnica, Bosina and Herzegovina. They will be shipping their daily data first followed by monthly data. As suspected, the data does not exactly fit the

prescribed WMO data format and it appears that metadata will be very limited. The National Climatic Data Center will have to reformat the data and build the station history metadata files.

OSTP Request

The National Climatic Data Center responded to a request by staff from the White House Office of Science Technology Policy (OSTP) for a digital copy of selected graphics from the 1998 Annual Climate Report.

Normals Development

The National Climatic Data Center (NCDC) provided monthly and daily 1961-90 normals to a graduate student at the University of Nebraska - Lincoln, who is working on resolving differences between the Automated Surface Observation System and conventional measurements. He is working on an automated version of the spline-fit programs used to produce daily normals from monthly normals and, if successful, will provide that software to NCDC for review and possible use for the 1971-2000 normals.

Access to Climate Means

Web pages from the Unified Climate Access Network (UCAN), the Western Regional Climate Center (WRCC), and the National Climatic Data Center (NCDC) were reviewed in an effort to reduce duplication and focus on more unique functionality for the NCDC Climate Means page. The NCDC is developing a general-user capability to retrieve individual observations, selectable-period means and Normals (including CLIM20 type products), and provide links to the other sites for the more specialized products.

Normals Web Pages Being Updated

The National Climatic Data Center is reviewing and updating the U.S. and Global Normals web pages. The errata sheets compiled for the Global Climate Normals (CLINO) CD-ROM and publication will be provided on-line as part of the update to the Normals documentation. In the

future, a link will be provided to the NOAA National Data Centers Climate Data Access system to provide the actual data to web users.

ISMCS Windows Version 1.0 Demo

Three National Climatic Data Center (NCDC) team members gave a demonstration of the soon-to-be released International Station Meteorological Climate Summary (ISMCS) windows version 1.0 CD-ROM to NCDC, Navy and Air Force Combat Climatology Center personnel. The Navy had raised concerns with an earlier beta version of the CD which did not have print or graphics capabilities. Users can now print directly from the screen or save the files to disk. They can also export 1 or several tables for 1 or more stations to semicolon delimited disk files for spreadsheet applications. A demonstration was done to show how easily the data can be exported to an Excel spreadsheet for graphing or additional computations. The Navy expressed their satisfaction with the latest version and the CD should be available to the public by the end of the year.

NASA Examining Land Cover Changes on the African Continent

The National Climatic Data Center (NCDC) reports that National Aeronautics and Space Administration (NASA) scientists under the Biospherics Branch at the Goddard Space Flight Center are nearing completion of a long-term historical archive of National Oceanic and Atmospheric Administration Advanced Very High Resolution Radiometer (AVHRR) data over the African continent. The data will be used extensively for the ongoing Global Inventory, Mapping and Monitoring System (GIMMS) project. One example of the project's goals is to assess environmental conditions which led up to the infamous Rift Valley Fever epidemics in Kenya. Analysis of past events, along with records of Pacific and Indian Ocean sea surface temperature anomalies, coupled with AVHRR derived satellite normalized difference vegetation index data, show that prediction of Rift Valley fever outbreaks may be made up to five months in

advance in East Africa. The NCDC is providing approximately 1,000 AVHRR data sets for the year 1980 to help with the GIMMS project.

Climatic Extremes/Weather Events System Sets Another Record

The National Climatic Data Center's (NCDC) Climatic Extremes/Weather Events web system recorded another monthly record with 366,000 hits during September. With Hurricanes Dennis and Floyd occurring during the month, and increased attention given to climate extremes, the system continues to grow in usage and popularity. NCDC attempts to keep the system's various web pages as up-to-date as possible, and places reports on-line as soon as possible after extreme events (e.g., Hurricane Floyd). An increasing number of news media, educational, and government web systems have links to it.

Hurricanes-1999 Web Page

The National Climatic Data Center (NCDC) has placed a "Hurricanes-1999" web page on-line. The main function of the page is to tie together the various web pages, information, and images the Center has concerning 1999 hurricanes. It also links to past years' reports and to numerous external sources of information. The page is located at: www.ncdc.noaa.gov/ol/climate/extremes/1999/hurricanes/hurricane.html

NDARS

The National Climatic Data Center (NCDC) NOAAPORT Data Archive and Retrieval System (NDARS) Requirements and Conceptual Design document, as requested by the Joint National Environmental Satellite, Data, and Information Service/National Weather Service (NWS) Systems Coordination Council, has been completed and provided to the NWS Headquarters. The document provides NCDC functional requirements to meet NWS requirements for retrospective data. NCDC has already implemented NDARS Phase-One, an ingest and product identification system under Earth System Data and Information Management (ESDIM), using its new NOAAPort

system. This effort is in collaboration with NWS/OM, NOAA's Forecast Systems Laboratory, and Unidata.

♦ Congressional Requests

Hurricane Jose Image Being Prepared

Neal O'Hara of National Oceanic and Atmospheric Administration's (NOAA) Legislative Affairs Office has requested the National Climatic Data Center (NCDC) produce an over-sized image of Hurricane Jose for presentation to Congressman Jose E. Serrano. The image, which will depict Hurricane Jose during its approach to Puerto Rico and the Virgin Islands, will display the NOAA logo and be identified as being from NCDC. It will be framed and presented to Congressman Serrano who was born in Puerto Rico and now serves as a representative from New York. Congressman Serrano is the ranking Democrat on the Subcommittee on Commerce, Justice, State, Judiciary, and related agencies of the House Appropriations Committee.

♦ Requests from News Media

Climate Interviews

Michael Changery, Climate Monitoring Branch Chief at the National Climatic Data Center, conducted two interviews with major news media on climate extremes and hurricane trends. One interview was with the *New York Times* concerning trends in extremes of temperature and precipitation in the historical record. Another interview was with the *Tampa Tribune* concerning relationships between the increased number of tropical systems in the decade of the 1990s and global warming.

Scientific American Interview

David Easterling, Acting Chief of the Climate Archeology and Analysis Branch at the National Climatic Data Center, was interviewed by a writer for *Scientific American*. She is writing an article on climate change and potential health effects in the United States, and the interview included

questions on observed and potential changes in climate extremes and disease.

Life Magazine

Michael Changery, Climate Monitoring Branch Chief at the National Climatic Data Center (NCDC), provided national and global extremes information for the year-to-date to *Life Magazine* for their 1999 annual issue. The magazine will include a section focusing on extreme temperature/precipitation/storm events and required clarifying and additional information. Most of the data being used by *Life Magazine* was obtained from NCDC's monthly monitoring report.

Wall Street Journal Questions Answered

Dr. Tom Peterson, Acting Scientific Services Branch Chief at the National Climatic Data Center (NCDC), answered questions from a *Wall Street Journal* editor concerning how NCDC calculates global temperature anomalies.

New York Times Interview

Michael Changery, Climate Monitoring Branch Chief at the National Climatic Data Center, was interviewed by the *New York Times* concerning Hurricane Floyd's rainfall in New Jersey. He provided maps and files of station precipitation totals for the storm period.

CBS News

David Easterling, Acting Chief of the Climate Archeology and Analysis Branch at the National Climatic Data Center, was interviewed by a producer with the CBS Evening News. CBS is developing a three-minute news piece on potential climate change impacts for the next century that will be aired in the Eye on America segment of the CBS Evening News.

World Almanac

Michael Changery, Climate Monitoring Branch Chief at the National Climatic Data Center, was contacted by the *World Almanac* requesting exact

figures of global temperature for 1997 and 1998 for inclusion in their Year 2000 Edition.

Blizzard Data Supplied

A reporter for *The Mercury* newspaper in Pottstown, PA, contacted the National Climatic Data Center (NCDC) for a list of blizzards which have affected the Pottstown area during the past century. Though NCDC does have such a list completed, the reporter was supplied excerpts from a web page being developed by NCDC which will list the major blizzards affecting the United States since 1880. The reporter intends to use the dates supplied to search local archives for additional information.

♦ Interesting Requests

World Solar Challenge

The National Climatic Data Center (NCDC) was contacted by an engineering student from the University of Minnesota requesting meteorological data for Australia. The student is part of the University's Solar Vehicle Project which has entered the World Solar Challenge, a solar car race which will trek across 1,880 miles of Australia's outback. The team will compete against racers representing multinational corporations, high schools, and colleges worldwide. The solar car which they are driving is known as the Aurora 3, has a top speed of 78 m.p.h., runs 55 m.p.h. on the power of a hair dryer, and weighs 655 pounds. The NCDC offered daily and hourly meteorological data for the period 1973-1998 for several Australian stations.

NCDC Publication Supports Local Commerce Affairs

The Coeur d'Alene Area Chamber of Commerce in northern Idaho will use the National Climatic Data Center (NCDC) publication Comparative Climatic Data (CCD) as a primary information resource for updating their Year 2000 Membership Directory. The new directory will include a few pages of climatic tables that list values from the CCD taken from surrounding area weather stations

such as Spokane, WA, and Lewiston, ID. The tables will be organized to include monthly normals of temperature and precipitation amounts and number of sunny, partly cloudy, and cloudy days.

♦ Regional and State Climate Centers

Climate Center Visits

Steve Doty of the National Climatic Data Center visited two of the Regional Climate Centers (RCC) during October. At the Southern RCC, a group of RCC Directors and State Climatologists met to develop a Business Plan. The goal was to develop a framework that will allow the three climate services partners to operate a highly efficient and effective customer services system. The draft version of the business plan will be distributed during November, and it will be a major topic of discussion during the RCC Directors meeting to be held in early December.

Request for Proposal

At the High Plains Regional Climate Center, Dick Reinhardt and Ken Hubbard participated with Steve Doty in writing a Request for Proposal (RFP) involving the competition of the Southeastern Regional Climate Center for the FY 00 grant year. This RFP will be released to interested parties in the Southeast in early December, with proposals due in mid-February 2000.

Record Number of Hits on Website

The Regional Climate Centers report that direct user contacts in September 1999 totaled 2,604, resulting in 1,058 orders. Hits on their web pages totaled over 1.9 million. The Midwestern Center reported a record number of hits on their web system, numbering over 130,000.

Data Rescue Activities

Efforts this month concentrated on closing out the work funded with FY 99 funds. The flow of data

to our contractors has ceased and the flow of “rescued” data back to the National Climatic Data Center is winding down.

Additional efforts are being made to insure that all “sent” data have been received back, either as images or digital records.

The National Climatic Data Center is trying to

define what impact there will be on rescue efforts as a result of the wording of the FY 00 appropriations bill. Congress has zeroed out the Environmental Data Rescue Program and in its place initiated a Climate Database Modernization effort. It is hoped that some direction will be forthcoming since there is a data rescue workshop to be held the first week of November.

SCIENTIFIC AND PROFESSIONAL ACTIVITIES

♦ Climate and Global Change

IPCC 2000 Analysis

National Climatic Data Center personnel were asked to verify data analyses provided to researchers involved with the Intergovernmental Panel on Climate Change (IPCC) 2000 Report. They questioned a large area with a springtime cooling trend in central Canada and the north central portions of the U.S. for the past 20 years. Although springs have been slightly cooler than average for the past few years in the area of concern, the primary reason was a near record warm spring in the area in 1977, resulting in a cooling trend when trends for the 1976-1998 period were developed.

Funding Proposals Submitted

Three project proposals were submitted to the Office of Global Programs by the National Climatic Data Center (NCDC) for funding consideration. Projects include examining long-term variability and trends in atmospheric conditions conducive to severe weather, developing a new Climate Divisional data set suitable for climate monitoring, and applying homogeneity corrections to the Comprehensive

Aerological Reference Data Set. A joint NCDC/National Centers for Environmental Prediction proposal entitled *An Investigation of Intra-seasonal Variations in Temperature, Rainfall and Snowfall in the Continental United States* was also submitted to the Climate and Global Change Program. The proposed work involves building a gridded daily data set of temperature and snowfall using NCDC's Cooperative Summary of the Day data. NCDC will be involved in providing data, performing quality control work, and in the data set validation. The second phase of the proposed work is to perform diagnostic analysis on the data set to address issues related to intra-seasonal and inter-annual climate variability in the U.S.

♦ Working Groups/Committees/Meetings

International Satellite Workshop

Alan Basist of the National Climatic Data Center attended the Diablerets-99 Workshop in Les Diablerets, Switzerland. The theme of the workshop was the *Integration of the Remote Sensing and Climate Modeling Communities*. Participants included scientists who derive various climate products through remote sensing and

modelers that integrate various climate parameters into Global Change Models. He gave two talks at the workshop; one on *Snow Cover* and the other on *The Temperature and Wetness Products Derived from Special Sensor Microwave Imagery Data*. He also visited the Centre d'Etudes Spatiales de la Biosphere (CESBIO) in Toulouse, France, and presented a seminar on *The Wetness Index and How it Can be Used in Conjunction with Soil Moisture, Precipitation and Vegetation Analyses*. Areas of future collaboration were defined with the workshop organizers and include the use of the wetness index to identify the magnitude of liquid water in a snow pack. Funding to cover transportation, lodging and workshop registration costs was provided by the workshop organizers and CESBIO provided similar funding for costs associated with the Toulouse trip.

Joint Symposium

David Easterling, Acting Chief of the Climate Archeology and Analysis Branch at the National Climatic Data Center, participated in the U.S./Canada Symposium on North American Climate Change and Weather Extremes in Atlanta, GA, October 6-8. He gave a presentation in the opening session on observed variability and trends in climate extremes in the U.S., and led a discussion on issues related to defining and analyzing climate extremes in the observed record.

Climate Variability and Predictability (CLIVAR)

A member of the Climate Archeology and Analysis Branch at the National Climatic Data Center participated in the CLIVAR Data Task Team meeting sponsored by the World Meteorological Organization October 22-23 in Saint Raphael, France. The committee met from an initial understanding of the focus and scope of CLIVAR data delivery issues, established working relationships between the team members, and addressed action items presented for its attention by the CLIVAR Scientific Steering Committee.

Paleodrought Initiative

A member of the Climate Archeology and Analysis Branch at the National Climatic Data Center traveled to Lamont-Doherty Earth Observatory in New York during October to discuss a paleodrought initiative and prospective funding mechanisms. The initiative will include paleodrought reconstructions for Mexico, U.S. and southern Canada. Funding sources for this initiative includes a new Call for Proposals by the National Science Foundation.

Association for Information and Image Management

John Hughes of the National Climatic Data Center (NCDC) coordinated the October meeting of the Charlotte, NC, chapter of the Association for Information and Image Management at NCDC in Asheville, NC, on October 19, 1999. The meeting was well attended, with nearly 20 members present from upstate South Carolina and the Charlotte, NC, areas. The theme of the meeting was E-commerce. Dee Dee Anders of NCDC gave a briefing and demonstration on the National Oceanic and Atmospheric Administration (NOAA) National Data Center's On-line Store development. Tours of NCDC's manuscript archive, computer facility, and Climate Museum were also provided. NCDC service contractor, Orkand Corporation, is a member of this group.

Committee on Atmospheric Icing

Neal Lott of the National Climatic Data Center (NCDC) participated in the fall meeting of the American Society of Civil Engineers (ASCE) Committee on Atmospheric Icing, in Portland, OR, September 28-29. The committee includes meteorologists and engineers from various government agencies and private companies, and focuses on climatologies and standards for atmospheric icing and its effects on structures, overhead lines, cables, etc. The three main efforts now in progress are: 1) expansion of the committee's Eastern U.S. freezing rain climatology

to include the rest of the country; 2) including the climatology in various standards and publications; 3) using Automated Surface Observing System (ASOS) Rosemount ice sensor data to provide ice accretion amounts at hourly, 3-hourly, and 6-hourly intervals. The committee's Eastern U.S. freezing rain radial ice thickness climatology (a 50-year recurrence interval map) has been well-received within industries concerned with freezing rain, in that it provides information never-before available. There is now a great demand to expand this to include the entire U.S. Funding is being sought from the Federal Emergency Management Agency and other sources for this effort. A preliminary version of the expanded map will use the expertise of the state and regional climatologists to estimate the 50-year values in areas not yet modeled. The National Weather Service and others plan to use the ASOS ice sensor data in an operational/forecast mode during ice storms, possibly as early as this winter for selected sites. Overall, these efforts to better describe and understand icing should have significant economic benefits to the nation.

First CPC/NCDC Meeting on Quality Control

The Climate Prediction Center (CPC) hosted the first CPC/National Climatic Data Center (NCDC) meeting on quality control at the National Centers for Environmental Prediction on October 4, 1999. There were six formal presentations, and seven action items were identified, including an exchange of software (daily precip from CPC to NCDC, daily max-min temperature from NCDC to CPC). In addition, a few areas for potentially fruitful collaborative research and development were identified.

♦ Visitors

IBM/McBride Presentations

Six representatives from IBM and McBride and Associates visited the National Climatic Data Center to provide briefings on the IBM UNIX-based workstations, disk storage, tape storage and skill set offerings for large volume data management. The meeting was conducted to

provide an exchange of ideas between vendors and government staff on how best to use, and possibly expand, the current architecture in use at NCDC. Follow-on efforts will focus on optimization of the Hierarchical Data Storage System (HDSS) and the IBM Scalable PowerParallel (SP2) system.

South Africans Visit

Johan Koch, the head of the South African Weather Bureau's Climate Branch and Louis Botha, their chief technician in charge of quality control, visited the National Climatic Data Center October 18th. Vernell Woldu, Customer Services Branch Chief at the National Climatic Data Center, briefed them on Customer Services Branch functions, on-line and off-line data delivery, and data charges necessary for cost recovery. They are trying to set up a system for charging for their data, which is currently free. In addition to pricing, they were particularly interested in our certification of data for use in litigation. They are required to go to court if subpoenaed and are going to try to use a certification process and statement similar to what we have in the future. They appreciated the wide ranging discussions they had with individuals from many different parts of the Center.

Bubonic Plague, Rats and Climate

Mr. Russell Ensore of the National Center for Infectious Diseases of the Center for Disease Control and Prevention visited the National Climatic Data Center (NCDC) on October 7. He was given training on the use of the NNDC Climate Data On-line System and he was provided access to the system. Mr. Ensore is investigating the influence of climate on outbreaks of bubonic plague in the high plateau areas of the American southwest. The plague, which earned the name the Black Death in Europe in the 1300's, is carried by rodents and is transmitted to humans by flea bites. Whenever climate conditions are right, the rodent population expands, and the fleas they carry become more prolific. This ultimately results in an increase in the number of flea bites and reported cases of plague in humans. Several cases a year are reported in the United States, and the number seems to increase with heavier-than-normal

precipitation in the southwest. Mr. Ensore is seeking to quantify that relationship. Mr. Ensore may use additional international data to expand his study to other indigenous areas of the plague including southern areas of Russia and southern Africa.

♦ Publications

World Weather Records Review

The National Climatic Data Center completed the blue-line proof edits for the final three volumes of the World Weather Records 1981-1990 series. The new blue-line proofs for Volumes 5 (Africa) and 6 (Islands of the World) were received and approved. The publisher had the final proofs for all three volumes, 4 (Asia), 5 and 6 on October 22 and is now printing the books. The books are expected to be ready next month.

Serially Complete Summary of Day Paper Accepted for Publication

A paper entitled *Creating a Serially Complete National Daily Time Series of Temperature and Precipitation for the United States* has been accepted for publication in the Journal Of Applied Meteorology. The paper describes the methodology that was used to estimate daily values for the western states. The National Climatic Data Center is currently working with the Climate Diagnostics Center to complete the data set for the eastern half of the U.S. by early 2000. The serially complete data set will be used in several applications including the normals project.

♦ Interactions with NOAA Line Offices

NEXRAD Level II and III Data for the NWS Office of Hydrology

The National Climatic Data Center (NCDC) assisted Dr. Danny Fread of the National Weather Service (NWS) Office of Hydrology in fulfilling an urgent request from Senator Barbara Boxer of California. The request was for Next Generation

Weather Radar (NEXRAD) Level II and Level III data. The Level II data was supplied by NCDC. The NEXRAD Level III portion of the request was for five date ranges totaling approximately 3,200 images. All vertically integrated liquid and one-hour precipitation images for Los Angeles and the Santa Ana Mountains were required to satisfy the request. The Principle User Processor can only produce one of these images at a time. Given the time restraints, the fact that the images could only be produced one at a time, and the limitations of the equipment, which had never been run continuously for 8 hours a day, NCDC had to come up with an alternative solution. Dr. Fread contacted John Ferree at the NWS training center in Norman, OK. They had a training session in progress and were able to take the entire request as a class learning experience. After making sure the Write Once Read Many (WORM) disks were loaded onto the Hierarchical Data Storage System, NCDC arranged their delivery to Norman, OK, for processing. The necessary images were output to CDs and the WORMs were returned.

Surface Observations Requirements Document

The National Weather Service (NWS) has distributed its Surface Observation Requirements proceedings and document from the September 1998 conference hosted by NWS. This 105-page document is a first step toward an overall surface observation requirements specification for the U.S. Neal Lott of the National Climatic Data Center (NCDC) attended the September 1998 conference and provided feedback to NWS this week on the recently-released document, including a copy of NCDC's climatic requirements for the Automated Surface Observing System (previously provided to NWS in November 1998). The next conference will probably include other federal agencies outside of the National Oceanic and Atmospheric Administration. The long-term goals are for a much more coherent system of surface data collection, better sharing of data between agencies and providers, better spatial and temporal resolution, and more complete observations (e.g., from automated stations); but the first step is defining the requirements.

EMPLOYEE ACTIVITIES

♦ EEO and Community Outreach

Job Shadowing

The Orkand Corporation hosted a disabled student in the Job Shadowing program on October 28th on behalf of the National Climatic Data Center. An advisor at Erwin High School in Asheville, NC, contacted the National Climatic Data Center Outreach Coordinator to arrange for the student, who is wheelchair-bound, to visit in operational computer areas. Orkand's Technical Operations Manager conducted a facility tour and orientation of the contract support areas provided by the contractor in Data Entry and Computer Operations.

Career Days

John Hughes represented the National Climatic Data Center (NCDC) at three separate Career Days held at Universities in Western North Carolina. The participating schools were Western Carolina University (WCU), University of North Carolina at Asheville, and Mars Hill College. There was a good turnout for this year's events with the largest turnout at WCU, with nearly 1,000 students attending. NCDC was one of nearly 120 employers present for the Career Day activities. The main idea of Career Day is to make students aware of the type of courses they need to take to enter various career fields and to let them know what job prospects are available. This was also an opportunity to make the students aware of the National Oceanic and Atmospheric Administration (NOAA) web site that lists all

available jobs within NOAA.

Mark Lackey of NCDC participated in the Career Fair at Haw Creek Elementary School. Mark developed a Home Page on his PC at his home which was used to better explain meteorology to kids and the types and uses of some of NCDC's products.

NCDC Assists Hurricane Floyd Victims

As part of a joint Federal Building effort, the National Climatic Data Center joined with other co-located agencies to assist flooding victims of eastern North Carolina. The final tally on monetary contributions was over \$1,200, and working through the local Manna Food Bank, Federal employees provided more than two truckloads of non-perishable goods.

Combined Federal Campaign

As of October 26th, the National Climatic Data Center had reached 96 percent of its goal for this year's Combined Federal Campaign.

♦ Training

Leading Through Change

Catherine Fincher and Kathy Hawkins of the National Climatic Data Center attended a "Leading Through Change II" class. The idea reinforced throughout the day was that everyone is more effective if the human element is taken into account.

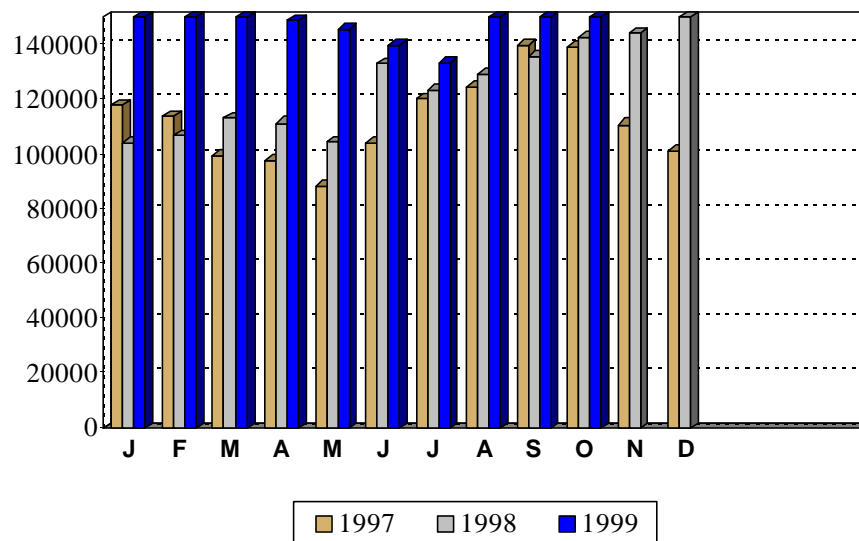
The following charts and graphs show the latest National Climatic Data Center user and data statistics.

Customer Profile Based on Orders

**No information available for the month of
October**

Customer Profile Based on Order Cost

**No information available for the month of
October**

NCDC On-Line Users**NCDC Off-Line Customer Contacts**

**No information available for the month of
October**

NCDC Data Downloaded